

**A CAMBRIDGE POPULATION OF THE RARE LEAF-HOPPER
SAGATUS PUNCTIFRONS (FALLÉN)
(HEMIPTERA: CICADELLIDAE)**

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Little appears to be known about the rare (Red Data Book indeterminate) cicadellid leaf-hopper *Sagatus punctifrons* (Fallén) in England. The only records are for single sites in Surrey (Woking, 1890–1892 and another undated), Somerset (Stoke St Gregory, no date) and two from modern Cambridgeshire (Kirby, 1992a, b and pers. comm.; Alan Stewart, pers. comm.). Peter Kirby's records are of two specimens taken at the Ouse Washes RSPB Reserve, Cambridgeshire (3 August 1992), and one female from a gravel pit at Buckden, Huntingdonshire (31 August 1999). *Sagatus* is a willow-feeder, recorded from *Salix repens* at the Surrey site, from *S. purpurea* at the Ouse Washes, and from young willows invading water fringe habitat and seasonally flooded sediments at the edge of a gravel pit at Buckden where *S. alba*, *S. viminalis* and *S. cinerea* were growing.

As part of a survey of the Ouse Washes RSPB Reserve, I was asked to establish whether *Sagatus* was still present at the small osier bed (c. 2 ha in size) where Peter Kirby had recorded it, and whether the current management was beneficial to the insect (Drake, 2004). The osier bed was once a withy bed, and over the last six years the RSPB has re-instated management by coppicing about one-fifth of the area every two years, on a ten-year overall cycle. When I surveyed it there was re-growth of three ages.

The osier bed near Sutton Gault (TL419789) was visited on 16 June, 21 July and 2 September 2004, in fine weather in each case. The trees were divided, as far as could be judged, into four age-classes, comprising trees cut one, three or five years previously, and old tall uncut trees. The foliage of each age-class was swept using a standard light-weight insect net, and beaten (using the net as the 'beating tray') in a search lasting for 15 minutes. The contents of the net were inspected frequently during this time and nearly all cicadellids collected. A fifth sample concentrated on the undergrowth of mixed tall fen and ruderal vegetation comprising mainly dense *Phalaris*, *Lythrum salicaria* and *Solanum dulcamara*.

Sagatus punctifrons was found in fair numbers in July, but not in June or September, on all stages of re-growth from trees coppiced in the previous year and just starting re-growth, through to trees coppiced about 3 and 5 years previously (Table 1). It was markedly less frequent on old tall willows forming a dense canopy, and only a few strays were found in the fen understory. A few specimens were found in tall vegetation beside a ditch across the track from the osier bed even though no willows grew along this ditch margin. Males were slightly more numerous than females in the samples although, with such a small sample, this difference may not be significant. Few other species of cicadellids were found and none was particularly frequent, so the few immature yellow-and-black cicadellids collected were assumed to be those of *Sagatus*. Similar numbers of immatures were found on all three ages of coppice re-growth. Immatures were not collected in June since they were assumed to be unidentifiable, although in retrospect this would have been useful. Willow foliage of mainly large trees in other parts of the washes was swept but not assiduously and no other locations for *Sagatus* were found.

There appears to be no preferred age of coppice growth supporting the leafhopper but coppicing is probably necessary to maintain a strong population since the insect

Table 1. Numbers of *Sagatus punctifrons* on trees of different ages at the Ouse Washes osier bed.

Sample	Age of re-growth	Male	Female	Immature
Fen understorey	fen understorey	2	9	0
Young re-growth from stools cut the previous winter, so < 1m tall in July 2004. These willows were in poor condition with much rust and tatty, pock-marked leaves.	1 year	19	11	6
Young re-growth c. 2–3 years old, reaching 3–4m high in July, and making up bulk of coppiced trees in the area.	2–3 years	21	21	5
Old re-growth, cut about ≥ 5 years ago, and up to 5 m high in July. They could not be clearly distinguished from slightly younger trees.	5 years	22	15	5
Old uncoppiced trees growing to 7–8 m tall casting dense shade that excluded the fen vegetation.	old trees	5	1	0
Nearby ditch		3	2	0
Total counts		73	59	16

was scarce on old trees. All these trees – young and old – are in close proximity so there was ample opportunity for the bug to move between different age-classes by flying a few metres. The preference for coppice over old trees is probably therefore real.

The species of willow was not identified at the time of the survey but the site was visited in March 2005 when single twigs were collected from a number of trees across the area that had been surveyed. These were potted-up awaiting identification when the foliage developed. Most rooted and were later identified using Meikle (1984) as 19 *Salix triandra*, six *S. purpurea* and three *S. alba*, or hybrids of these. Clearly it was not possible to say whether *Sagatus* fed on all three willows, but the predominance of *S. triandra* suggests that this species, at least, was used. *Salix cinerea* also grew along the ditch bordering the osier coppice.

Other bugs as numerous as *Sagatus* on the willows were the common species *Populicerus confusus* (Flor), *I. stigmatalis* Lewis and *Aphrophora salicina* (Goeze); the last was more frequent on older re-growth and on large trees than on recently coppiced willows. There were occasional *Kybos rufescens* Melichar, and one *Metidiocerus elegans* (Flor) on the old trees.

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